



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,917	12/14/2004	Hubert Cecile Francois Martens	NL 020573	8862

24737 7590 07/26/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS  
P.O. BOX 3001  
BRIARCLIFF MANOR, NY 10510

EXAMINER
----------

HEYI, HENOK G

ART UNIT	PAPER NUMBER
----------	--------------

2609

MAIL DATE	DELIVERY MODE
-----------	---------------

07/26/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/517,917	Applicant(s) MARTENS ET AL.	
	Examiner Henok G. Heyi	Art Unit 2609	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                                      |                                                                                        |
|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                          | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                 | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____                                                |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishiuchi et al 5,764,619 (Nishiuchi hereinafter).**

Re claim 1, a multi-stack optical data storage medium (recording medium according to this embodiment has two information layers, col 13 line 52) for recording and reading using a focused radiation beam entering through an entrance face of the medium during recording and reading ({recording and reproducing} col 13 line 60), comprising: a first substrate with present on a side thereof: a first recording stack named L0, comprising a recordable type L0 recording layer, and formed in a first L0 guide groove, and a first reflective layer present between the L0 recording layer and the first substrate (guide grooves formed on a first substrate formed a first information layer formed by a thin film, col 11 line 7+), a second substrate with present on a side thereof: a second recording stack named L1 comprising a recordable type L1 recording layer, said second recording stack being present at a position closer to the entrance face than the L0 recording stack and formed in a second L1 guide groove (guide grooves formed on a

Art Unit: 2609

second substrate formed a second information layer formed by a thin film, col 11 line 18+), a transparent spacer layer sandwiched between the recording stacks (there is formed a transparent separation layer between the first information layer and the second information layer, col 11 line 24+), said transparent spacer layer having a thickness substantially larger than the depth of focus of the focused radiation beam (the thickness of the separation layer be set to a value larger than twice the focal depth, col 16 line 6-12), characterized in that the first L0 guide groove has a depth  $GL_0 < 100\text{nm}$  (the pit depth is  $90\text{nm}$ , col 46 line 12).

Re claim 2, a multi-stack optical data storage medium according to claim 1, wherein  $GL_0 < 80\text{ nm}$  (the depth of the groove is  $50\text{nm}$  which is less than  $80\text{nm}$ , col 47 line 45) and the first L0 guide groove has a full half maximum width  $WL_0 < 350\text{nm}$  (the pit width is  $0.3\mu\text{m}$  which is equivalent to  $300\text{nm}$ , col 20 line 60).

Re claim 3, a multi-stack optical data storage medium according to claim 1, wherein  $25\text{nm} < GL_0 < 40\text{nm}$  and the first reflective layer comprises a metal and has a thickness  $> 50\text{ nm}$  (a metal formed into a thin reflective film having thickness of  $40\text{nm}$  to  $200\text{nm}$ , col 14 line 34).

Re claim 4, a multi-stack optical data storage medium according to claim 1, wherein the recordable type L0 recording layer comprises a dye (as the organic coloring matter, a leuco dye, such as triphenylmethane or the like may be employed, col 14 line 65) and

Art Unit: 2609

has a thickness between 70nm and 150nm measured on the land portion of the guide groove (Having a thickness of 90nm).

Re claim 5, a multi-stack optical data storage medium according to claim 1, wherein a dielectric layer is present at a side of the L0 recording layer opposite from the side where the first reflective layer is present (the double layer structure may be a structure including a dielectric material layer/a recording layer, a structure including a recording layer/a reflecting layer or a structure including a reflecting layer/a recording layer in the forgoing sequential order, col 15 line 18-24).

Re claim 6, a multi-stack optical data storage medium according to claim 5, wherein the dielectric layer has a thickness in the range of 5nm – 120nm (a dielectric layer having a thickness of 30nm, col 46 line17).

Re claim 7, a multi-stack optical data storage medium according to claim 1, wherein a second reflective layer comprising a metal is present at a side of the L0 recording layer opposite from the side where the first reflective layer is present (a structure including a first reflecting layer/a dielectric material layer/a recording layer/a dielectric material layer/a reflecting layer when viewed from the substrate, col 15 line 32-35).

Art Unit: 2609

Re claim 8, a multi-stack optical data storage medium according to claim 7, wherein the second reflective layer has a thickness in the range of 5nm - 15nm (a semitransparent reflecting layer having a thickness of 14nm, col 46 line33).

Re claim 9, a multi-stack optical data storage medium according to claim 7 or 8, wherein the second reflective layer mainly comprises a metal selected from the group of Ag, Au, Cu, Al (the thin film reflective layer is made of a material selected from a group consisting of metal, such as Au, Al, Cu or their alloys, col 13 line 62-67).

Re claim 10, a multi-stack optical data storage medium according to any one of claims 1-9, wherein the effective reflection level of the stacks is at least 0.18 at a radiation beam wavelength of approximately 655 nm (reflectance of the information layer at a wavelength of 680nm is 17%, col 45 line 22 also look at col 18 line 1-8).

Re claim 11, use of an optical data storage medium as claimed in claim 1 for multi stack recording with a reflectivity level of the first recording stack L0 as such of at least 0.5 (having reflectance of 90% which is equivalent to 0.9 and definitely above 0.5) and modulation of recorded marks in the L0 recording layer of at least 0.6 at a radiation beam wavelength of approximately 655 nm (a wavelength of 680 having a numerical aperture modulated mark of 0.6, col 42 line 20-25).

**Examiner's note**

The referenced citations made in the rejection(s) above are intended to exemplify areas in the prior art document(s) in which the examiner believed are the most relevant to the claimed subject matter. However, it is incumbent upon the applicant to analyze the prior art document(s) in its/their entirety since other areas of the document(s) may be relied upon at a later time to substantiate examiner's rationale of record. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & associates, Inc. v. Garlock, Inc., 721

F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

However, "the prior art's mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed...." In re Fulton, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Art Unit: 2609

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henok G. Heyi whose telephone number is (571) 272-1816. The examiner can normally be reached on Monday to Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vu Le can be reached on (571) 272-7332. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HGH

  
VU LE  
SUPERVISORY PATENT EXAMINER